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(54) Title: HUMAN RNA METABOLISM PROTEINS (RMEP)

(57) Abstract: The invention provides human RNA metabolism proteins (RMEP) and polynucleotides which identify and encode RMEP. The invention also provides expression vectors, host cells, antibodies, agonists, and antagonists. The invention also provides methods for diagnosing, treating, or preventing disorders associated with expression of RMEP.



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## SEQUENCE LISTING

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 YUE, Henry  
 LAL, Preeti  
 TANG, Y. Tom  
 REDDY, Roopa  
 BAUGHN, Mariah R.  
 AZIMZAI, Yalda

<120> RNA METABOLISM PROTEINS

<130> PF-0712 PCT

<140> To Be Assigned

<141> Herewith

<150> 60/139,922

<151> 1999-06-17

<160> 26

<170> PERL Program

<210> 1

<211> 503

<212> PRT

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte Clone No: 046926

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Ile	Cys	Val	Ala	Cys	Leu	Arg	Ser	Lys	Val	Asp	Ile	Ser	Gln	Gly
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				320					325					330	
Ala	Gly	Ala	Gly	Met	Ile	Ser	Lys	Lys	His	Thr	Leu	Gly	Glu	Val	
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Trp	Val	Gln	Lys	Thr	Ser	Glu	Met	Asn	Thr	Asp	Lys	Gln	Tyr	Phe	
				350					355					360	
Cys	Arg	Thr	His	Leu	Gly	His	Leu	Leu	Asn	Pro	Gly	Asp	Leu	Val	
				365					370					375	
Leu	Gly	Phe	Asp	Leu	Ala	Asn	Cys	Asn	Leu	Asn	Asp	Glu	His	Val	
				380					385					390	
Asn	Lys	Met	Asn	Ser	Asp	Arg	Val	Pro	Asp	Val	Val	Leu	Ile	Lys	
				395					400					405	
Lys	Ser	Tyr	Asp	Arg	Thr	Lys	Arg	Gln	Arg	Arg	Arg	Asn	Trp	Lys	
				410					415					420	
Leu	Lys	Glu	Leu	Ala	Arg	Glu	Arg	Glu	Asn	Met	Asp	Thr	Asp	Asp	
				425					430					435	
Glu	Arg	Gln	Tyr	Gln	Asp	Phe	Leu	Glu	Asp	Leu	Glu	Glu	Asp	Glu	
				440					445					450	
Ala	Ile	Arg	Lys	Asn	Val	Asn	Ile	Tyr	Arg	Asp	Ser	Ala	Ile	Pro	
				455					460					465	
Val	Glu	Ser	Asp	Thr	Asp	Asp	Glu	Gly	Ala	Pro	Arg	Ile	Ser	Leu	
				470					475					480	
Ala	Glu	Met	Leu	Glu	Asp	Leu	His	Ile	Ser	Gln	Asp	Ala	Thr	Gly	
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Glu	Glu	Gly	Ala	Ser	Met	Leu	Thr								
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&lt;211&gt; 594

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; Incyte Clone No: 618791

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				20					25					30
Trp	Asp	Val	His	Val	His	Ser	Asp	Leu	Ala	Lys	Asp	Leu	Asp	Glu
				35					40					45
Asn	Glu	Val	Glu	Arg	Pro	Glu	Glu	Glu	Asn	Ala	Ser	Ala	Asn	Pro
				50					55					60
Pro	Ser	Gly	Ile	Glu	Asp	Glu	Thr	Ala	Glu	Asn	Gly	Val	Pro	Lys
				65					70					75
Pro	Lys	Val	Thr	Glu	Thr	Glu	Asp	Asp	Ser	Asp	Ser	Asp	Ser	Asp
				80					85					90
Asp	Asp	Glu	Asp	Asp	Val	His	Val	Thr	Ile	Gly	Asp	Ile	Lys	Thr
				95					100					105
Gly	Ala	Pro	Gln	Tyr	Gly	Ser	Tyr	Gly	Thr	Ala	Pro	Val	Asn	Leu
				110					115					120
Asn	Ile	Lys	Thr	Gly	Gly	Arg	Val	Tyr	Gly	Thr	Thr	Gly	Thr	Lys
				125					130					135
Val	Lys	Gly	Val	Asp	Leu	Asp	Ala	Pro	Gly	Ser	Ile	Asn	Gly	Val
				140					145					150
Pro	Leu	Leu	Glu	Val	Asp	Leu	Asp	Ser	Phe	Glu	Asp	Lys	Pro	Trp
				155					160					165
Arg	Lys	Pro	Gly	Ala	Asp	Leu	Ser	Asp	Tyr	Phe	Asn	Tyr	Gly	Phe
				170					175					180
Asn	Glu	Asp	Thr	Trp	Lys	Ala	Tyr	Cys	Glu	Lys	Gln	Lys	Arg	Ile
				185					190					195
Arg	Met	Gly	Leu	Glu	Val	Ile	Pro	Val	Thr	Ser	Thr	Thr	Asn	Lys
				200					205					210
Ile	Thr	Ala	Glu	Asp	Cys	Thr	Met	Glu	Val	Thr	Pro	Gly	Ala	Glu
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Ile	Gln	Asp	Gly	Arg	Phe	Asn	Leu	Phe	Lys	Val	Gln	Gln	Gly	Arg
				230					235					240
Thr	Gly	Asn	Ser	Glu	Lys	Glu	Thr	Ala	Leu	Pro	Ser	Thr	Lys	Ala
				245					250					255
Glu	Phe	Thr	Ser	Pro	Pro	Ser	Leu	Phe	Lys	Thr	Gly	Leu	Pro	Pro
				260					265					270
Ser	Arg	Asn	Ser	Thr	Ser	Ser	Gln	Ser	Gln	Thr	Ser	Thr	Ala	Ser
				275					280					285
Arg	Lys	Ala	Asn	Ser	Ser	Val	Gly	Lys	Trp	Gln	Asp	Arg	Tyr	Gly
				290					295					300
Arg	Ala	Glu	Ser	Pro	Asp	Leu	Arg	Arg	Leu	Pro	Gly	Ala	Ile	Asp
				305					310					315
Val	Ile	Gly	Gln	Thr	Ile	Thr	Ile	Ser	Arg	Val	Glu	Gly	Arg	Arg
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Arg	Ala	Asn	Glu	Asn	Ser	Asn	Ile	Gln	Val	Leu	Ser	Glu	Arg	Ser
				335					340					345
Ala	Thr	Glu	Val	Asp	Asn	Asn	Phe	Ser	Lys	Pro	Pro	Pro	Phe	Phe
				350					355					360
Pro	Pro	Gly	Ala	Pro	Pro	Thr	His	Leu	Pro	Pro	Pro	Pro	Phe	Leu
				365					370					375
Pro	Pro	Pro	Pro	Thr	Val	Ser	Thr	Ala	Pro	Pro	Leu	Ile	Pro	Pro
				380					385					390
Pro	Gly	Phe	Pro	Pro	Pro	Pro	Gly	Ala	Pro	Pro	Pro	Ser	Leu	Ile
				395					400					405
Pro	Thr	Ile	Glu	Ser	Gly	His	Ser	Ser	Gly	Tyr	Asp	Ser	Arg	Ser
				410					415					420
Ala	Arg	Ala	Phe	Pro	Tyr	Gly	Asn	Val	Ala	Phe	Pro	His	Leu	Pro
				425					430					435
Gly	Ser	Ala	Pro	Ser	Trp	Pro	Ser	Leu	Val	Asp	Thr	Ser	Lys	Gln
				440					445					450
Trp	Asp	Tyr	Tyr	Ala	Arg	Arg	Glu	Lys	Asp	Arg	Asp	Arg	Glu	Arg

Asp Arg Asp Arg	455	Arg Asp Arg Asp	460	Arg Asp Arg Glu Arg	465
	470		475		480
Arg Thr Arg Glu	485	Arg Glu Arg Glu Arg	490	Asp His Ser Pro Thr	495
	500	Ser Asp Glu Glu Arg	505	Tyr Arg Tyr Arg Glu	510
Ala Glu Arg Gly	515	Tyr Glu Arg His Arg	520	Ala Ser Arg Glu Lys	525
	530	Glu Arg Arg His Arg	535	Glu Lys Glu Glu Thr	540
His Lys Ser Ser	545	Arg Ser Asn Ser Arg	550	Arg Arg His Glu Ser	555
	560	Glu Gly Asp Ser His	565	Arg Arg His Lys Lys	570
Ser Lys Glu Gly	575	Lys Glu Ala Gly Ser	580	Glu Pro Ala Pro Glu	585
Glu Ser Thr Glu	590	Ala Thr Pro Ala Glu			

&lt;210&gt; 3

&lt;211&gt; 413

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; Incyte Clone No: 1240366

&lt;400&gt; 3

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Thr Met Lys Leu	Ser Gly Phe Gly Val	Ala Asp Ser Met	Arg Ile	
	20	25		30
Ser Gly Cys Ser	Ile Gln Lys Gln Ser	Arg Ile Ile Ile	Thr Asp	
	35	40		45
Arg Gln Ala Glu	Pro Pro Lys Lys Glu	Ala Ala Thr Thr	Gly Pro	
	50	55		60
Gln Val Lys Arg	Ala Asp Glu Trp Lys	Asp Pro Trp Arg	Arg Ser	
	65	70		75
Lys Ser Pro Lys	Lys Lys Leu Gly Val	Ser Val Ser Pro	Ser Arg	
	80	85		90
Ala Arg Arg Arg	Arg Lys Thr Ser Ala	Ser Ser Ala Ser	Ala Ser	
	95	100		105
Asn Ser Ser Arg	Ser Ser Ser Arg Ser	Ser Ser Tyr Ser	Gly Ser	
	110	115		120
Gly Ser Ser Arg	Ser Arg Ser Arg Ser	Ser Ser Tyr Ser	Ser Tyr	
	125	130		135
Ser Ser Arg Ser	Ser Arg His Ser Ser	Phe Ser Gly Ser	Arg Ser	
	140	145		150
Arg Ser Arg Ser	Phe Ser Ser Ser Pro	Ser Pro Ser Pro	Thr Pro	
	155	160		165
Ser Pro His Arg	Pro Ser Ile Arg Thr	Lys Gly Glu Pro	Ala Pro	
	170	175		180
Pro Pro Gly Lys	Ala Gly Glu Lys Ser	Val Lys Lys Pro	Ala Pro	
	185	190		195
Pro Pro Ala Pro	Pro Gln Ala Thr Lys	Thr Thr Ala Pro	Val Pro	

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Glu Pro Thr Lys	Pro Gly Asp Pro Arg	Glu Ala Arg Arg Lys	Glu		
	215		220		225
Arg Pro Ala Arg	Thr Pro Pro Arg Arg	Arg Thr Leu Ser Gly	Ser		
	230		235		240
Gly Ser Gly Ser	Gly Ser Ser Tyr Ser	Gly Ser Ser Ser Arg	Ser		
	245		250		255
Arg Ser Leu Ser	Val Ser Ser Val Ser	Ser Val Ser Ser Ala	Thr		
	260		265		270
Ser Ser Ser Ser	Ser Ala His Ser Val	Asp Ser Glu Asp Met	Tyr		
	275		280		285
Ala Asp Leu Ala	Ser Pro Val Ser Ser	Ala Ser Ser Arg Ser	Pro		
	290		295		300
Ala Pro Ala Gln	Thr Arg Lys Glu Lys	Gly Lys Ser Lys Lys	Glu		
	305		310		315
Asp Gly Val Lys	Glu Glu Lys Arg Lys	Arg Asp Ser Ser Thr	Gln		
	320		325		330
Pro Pro Lys Ser	Ala Lys Pro Pro Ala	Gly Gly Lys Ser Ser	Gln		
	335		340		345
Gln Pro Ser Thr	Pro Gln Gln Ala Pro	Pro Gly Gln Pro Gln	Gln		
	350		355		360
Gly Thr Phe Val	Ala His Lys Glu Ile	Lys Leu Thr Leu Leu	Asn		
	365		370		375
Lys Ala Ala Asp	Lys Gly Ser Arg Lys	Arg Tyr Glu Pro Ser	Asp		
	380		385		390
Lys Asp Arg Gln	Ser Pro Pro Pro Ala	Lys Arg Pro Asn Thr	Ser		
	395		400		405
Pro Asp Arg Gly	Ser Arg Asp Arg				
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&lt;210&gt; 4

&lt;211&gt; 219

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; Incyte Clone No: 1295773

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Phe Thr Glu Gln Tyr Asn Glu Gln Tyr	Gly Ala Val Arg Thr Pro	
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Tyr Thr Met Gly Tyr Gly Glu Ser Met	Tyr Tyr Asn Asp Ala Tyr	
	65	70
Gly Ala Leu Asp Tyr Tyr Lys Arg Tyr	Arg Val Arg Ser Tyr Glu	
	80	85
Ala Val Ala Ala Ala Ala Ala Ala Ser	Ala Tyr Asn Tyr Ala Glu	
	95	100
Gln Thr Met Ser His Leu Pro Gln Val	Gln Ser Thr Thr Val Thr	
	110	115
Ser His Leu Asn Ser Thr Ser Val Asp	Pro Tyr Asp Arg His Leu	
	125	130
		135

Leu	Pro	Asn	Ser	Gly	Ala	Ala	Ala	Thr	Ser	Ala	Ala	Met	Ala	Ala	
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Ala	Ala	Ala	Thr	Thr	Ser	Ser	Tyr	Tyr	Gly	Arg	Asp	Arg	Ser	Pro	
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Leu	Arg	Arg	Ala	Ala	Ala	Met	Leu	Pro	Thr	Val	Gly	Glu	Gly	Tyr	
				170					175						180
Gly	Tyr	Gly	Pro	Glu	Ser	Glu	Leu	Ser	Gln	Ala	Ser	Ala	Ala	Thr	
				185					190						195
Arg	Asn	Ser	Leu	Tyr	Asp	Met	Ala	Arg	Tyr	Glu	Arg	Glu	Gln	Tyr	
				200					205						210
Val	Asp	Arg	Ala	Arg	Tyr	Ser	Ala	Phe							
				215											

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&lt;211&gt; 641

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; Incyte Clone No: 1858421

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Asn	Pro	Thr	Asp	Gln	Ala	Arg	Lys	Glu	Ala	Arg	Lys	Arg	Glu	Leu	
				20					25					30	
Lys	Lys	Asn	Lys	Lys	Gln	Arg	Met	Met	Val	Arg	Ala	Ala	Val	Leu	
				35					40					45	
Lys	Met	Lys	Asp	Pro	Lys	Gln	Ile	Ile	Arg	Asp	Met	Glu	Lys	Leu	
				50					55					60	
Asp	Glu	Met	Glu	Phe	Asn	Pro	Val	Gln	Gln	Pro	Gln	Leu	Asn	Glu	
				65					70					75	
Lys	Val	Leu	Lys	Asp	Lys	Arg	Lys	Lys	Leu	Arg	Glu	Thr	Phe	Glu	
				80					85					90	
Arg	Ile	Leu	Arg	Leu	Tyr	Glu	Lys	Glu	Asn	Pro	Asp	Ile	Tyr	Lys	
				95					100					105	
Glu	Leu	Arg	Lys	Leu	Glu	Val	Glu	Tyr	Glu	Gln	Lys	Arg	Ala	Gln	
				110					115					120	
Leu	Ser	Gln	Tyr	Phe	Asp	Ala	Val	Lys	Asn	Ala	Gln	His	Val	Glu	
				125					130					135	
Val	Glu	Ser	Ile	Pro	Leu	Pro	Asp	Met	Pro	His	Ala	Pro	Ser	Asn	
				140					145					150	
Ile	Leu	Ile	Gln	Asp	Ile	Pro	Leu	Pro	Gly	Ala	Gln	Pro	Pro	Ser	
				155					160					165	
Ile	Leu	Lys	Lys	Thr	Ser	Ala	Tyr	Gly	Pro	Pro	Thr	Arg	Ala	Val	
				170					175					180	
Ser	Ile	Leu	Pro	Leu	Leu	Gly	His	Gly	Val	Pro	Arg	Leu	Pro	Pro	
				185					190					195	
Gly	Arg	Lys	Pro	Pro	Gly	Pro	Pro	Pro	Gly	Pro	Pro	Pro	Pro	Gln	
				200					205					210	
Val	Val	Gln	Met	Tyr	Gly	Arg	Lys	Val	Gly	Phe	Ala	Leu	Asp	Leu	
				215					220					225	
Pro	Pro	Arg	Arg	Arg	Asp	Glu	Asp	Met	Leu	Tyr	Ser	Pro	Glu	Leu	
				230					235					240	
Ala	Gln	Arg	Gly	His	Asp	Asp	Asp	Val	Ser	Ser	Thr	Ser	Glu	Asp	
				245					250					255	
Asp	Gly	Tyr	Pro	Glu	Asp	Met	Asp	Gln	Asp	Lys	His	Asp	Asp	Ser	

Thr Asp Asp Ser	260	Thr Asp Lys Ser	265	Gly Glu Ser Asp	270
Asp Glu Phe Val	275	Arg Asp Asn Gly	280	Arg Asp Asn Asn	285
Glu Lys Lys Ser	290	Leu Ser Val Arg	295	Phe Ala Asp Met Pro	300
Lys Ser Arg Lys	305	Lys Lys Lys Asn Met	310	Lys Glu Leu Thr Pro	315
Gln Ala Met Met	320	Leu Arg Met Ala Gly	325	Gln Glu Ile Pro Glu	330
Gly Arg Glu Val	335	Glu Glu Phe Ser Glu	340	Asp Asp Asp Glu Asp	345
Ser Asp Asp Ser	350	Glu Ala Glu Lys Gln	355	Ser Gln Lys Gln His	360
Glu Glu Ser His	365	Ser Asp Gly Thr Ser	370	Thr Ala Ser Ser Gln	375
Gln Ala Pro Pro	380	Gln Ser Val Pro Pro	385	Ser Gln Ile Gln Ala	390
Pro Met Pro Gly	395	Pro Pro Pro Leu Gly	400	Pro Pro Pro Ala Pro	405
Leu Arg Pro Pro	410	Gly Pro Pro Thr Gly	415	Leu Pro Pro Gly Pro	420
Pro Gly Ala Pro	425	Pro Phe Leu Arg Pro	430	Gly Met Pro Gly Leu	435
Arg Gly Pro Leu	440	Pro Arg Leu Leu Pro	445	Pro Gly Pro Pro Pro	450
Arg Pro Pro Gly	455	Pro Pro Pro Gly Pro	460	Pro Pro Gly Leu Pro	465
Gly Pro Pro Pro	470	Arg Gly Pro Pro Pro	475	Arg Leu Pro Pro Pro	480
Pro Pro Gly Ile	485	Pro Pro Pro Arg Pro	490	Gly Met Met Arg Pro	495
Leu Val Pro Pro	500	Leu Gly Pro Ala Pro	505	Pro Gly Leu Phe Pro	510
Ala Pro Leu Pro	515	Asn Pro Gly Val Leu	520	Ser Ala Pro Pro Asn	525
Ile Gln Arg Pro	530	Lys Ala Asp Asp Thr	535	Ser Ala Ala Thr Ile	540
Lys Lys Ala Thr	545	Ala Thr Ile Ser Ala	550	Lys Pro Gln Ile Thr	555
Pro Lys Ala Glu	560	Ile Thr Arg Phe Val	565	Pro Thr Ala Leu Arg	570
Arg Arg Glu Asn	575	Lys Gly Ala Thr Ala	580	Ala Pro Gln Arg Lys	585
Glu Asp Asp Ser	590	Ala Val Pro Leu Ala	595	Lys Ala Ala Pro Lys	600
Gly Pro Ser Val	605	Pro Val Ser Val Gln	610	Thr Lys Asp Asp Val	615
Glu Ala Phe Met	620	Lys Glu Met Glu Gly	625	Leu Leu	630
	635		640		

&lt;210&gt; 6

&lt;211&gt; 153

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens



<220>  
 <221> misc\_feature  
 <223> Incyte Clone No: 2152431

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   1                  5                  10                  15  
 Ser Thr Tyr Pro Met Gln Cys Ser Ala Leu Arg Lys Asn Gly Phe  
                   20                  25                  30  
 Val Val Leu Lys Gly Arg Pro Cys Lys Ile Val Glu Met Ser Thr  
                   35                  40                  45  
 Ser Lys Thr Gly Lys His Gly His Ala Lys Val His Leu Val Gly  
                   50                  55                  60  
 Ile Asp Ile Phe Thr Gly Lys Lys Tyr Glu Asp Ile Cys Pro Ser  
                   65                  70                  75  
 Thr His Asn Met Asp Val Pro Asn Ile Lys Arg Asn Asp Tyr Gln  
                   80                  85                  90  
 Leu Ile Cys Ile Gln Asp Gly Tyr Leu Ser Leu Leu Thr Glu Thr  
                   95                  100                 105  
 Gly Glu Val Arg Glu Asp Leu Lys Leu Pro Glu Gly Glu Leu Gly  
                  110                 115                 120  
 Lys Glu Ile Glu Gly Lys Tyr Asn Ala Gly Glu Asp Val Gln Val  
                  125                 130                 135  
 Ser Val Met Cys Ala Met Ser Glu Glu Tyr Ala Val Ala Ile Lys  
                  140                 145                 150  
 Pro Cys Lys

<210> 7  
 <211> 194  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <223> Incyte Clone No: 2641494

<400> 7  
 Met Gln Ala Val Arg Asn Ala Gly Ser Arg Phe Leu Arg Ser Trp  
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 Thr Trp Pro Gln Thr Ala Gly Arg Val Val Ala Arg Thr Pro Ala  
                   20                  25                  30  
 Gly Thr Ile Cys Thr Gly Ala Arg Gln Leu Gln Asp Ala Ala Ala  
                   35                  40                  45  
 Lys Gln Lys Val Glu Gln Asn Ala Ala Pro Ser His Thr Lys Phe  
                   50                  55                  60  
 Ser Ile Tyr Pro Pro Ile Pro Gly Glu Glu Ser Ser Leu Arg Trp  
                   65                  70                  75  
 Ala Gly Lys Lys Phe Glu Glu Ile Pro Ile Ala His Ile Lys Ala  
                   80                  85                  90  
 Ser His Asn Asn Thr Gln Ile Gln Val Val Ser Ala Ser Asn Glu  
                   95                 100                 105  
 Pro Leu Ala Phe Ala Ser Cys Gly Thr Glu Gly Phe Arg Asn Ala  
                  110                 115                 120  
 Lys Lys Gly Thr Gly Ile Ala Ala Gln Thr Ala Gly Ile Ala Ala  
                  125                 130                 135  
 Ala Ala Arg Ala Lys Gln Lys Gly Val Ile His Ile Arg Val Val  
                  140                 145                 150  
 Val Lys Gly Leu Gly Pro Gly Arg Leu Ser Ala Met His Gly Leu

	155		160		165
Ile Met Gly Gly	Leu Glu Val Ile Ser	Ile Thr Asp Asn Thr	Pro		
	170		175		180
Ile Pro His Asn Gly	Cys Arg Pro Arg	Lys Ala Arg Lys Leu			
	185		190		

&lt;210&gt; 8

&lt;211&gt; 629

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; Incyte Clone No: 3803409

&lt;400&gt; 8

Met Gly Lys Pro Pro	Gly Ser Ile Val Arg	Pro Ser Ala Pro Pro
1 5	10	15
Ala Arg Ser Ser Val	Pro Val Thr Arg Pro	Pro Val Pro Ile Pro
20 25	30	
Pro Pro Pro Pro Pro	Pro Pro Leu Pro Pro	Pro Pro Pro Val Ile
35 40	45	
Lys Pro Gln Thr Ser	Ala Val Glu Gln Glu	Arg Trp Asp Glu Asp
50 55	60	
Ser Phe Tyr Gly Leu	Trp Asp Thr Asn Asp	Glu Gln Gly Leu Asn
65 70	75	
Ser Glu Phe Lys Ser	Glu Thr Ala Ala Ile	Pro Ser Ala Pro Val
80 85	90	
Leu Pro Pro Pro Pro	Val His Ser Ser Ile	Pro Pro Pro Gly Pro
95 100	105	
Val Pro Met Gly Met	Pro Pro Met Ser Lys	Pro Pro Pro Val Gln
110 115	120	
Gln Thr Val Asp Tyr	Gly His Gly Arg Asp	Ile Ser Thr Asn Lys
125 130	135	
Val Glu Gln Ile Pro	Tyr Gly Glu Arg Ile	Thr Leu Arg Pro Asp
140 145	150	
Pro Leu Pro Glu Arg	Ser Thr Phe Glu Thr	Glu His Ala Gly Gln
155 160	165	
Arg Asp Arg Tyr Asp	Arg Glu Arg Asp Arg	Glu Pro Tyr Phe Asp
170 175	180	
Arg Gln Ser Asn Val	Ile Ala Asp His Arg	Asp Phe Lys Arg Asp
185 190	195	
Arg Glu Thr His Arg	Asp Arg Asp Arg Arg	Arg Gly Val Ile Asp
200 205	210	
Tyr Asp Arg Asp Arg	Phe Asp Arg Glu Arg	Arg Pro Arg Asp Asp
215 220	225	
Arg Ala Gln Ser Tyr	Arg Asp Lys Lys Asp	His Ser Ser Ser Arg
230 235	240	
Arg Gly Gly Phe Asp	Arg Pro Ser Tyr Asp	Arg Lys Ser Asp Arg
245 250	255	
Pro Val Tyr Glu Gly	Pro Ser Met Phe Gly	Gly Glu Arg Arg Thr
260 265	270	
Tyr Pro Glu Glu Arg	Met Pro Leu Pro Ala	Pro Ser Leu Ser His
275 280	285	
Gln Pro Pro Pro Ala	Pro Arg Val Glu Lys	Lys Pro Glu Ser Lys
290 295	300	
Asn Val Asp Asp Ile	Leu Lys Pro Pro Gly	Arg Glu Ser Arg Pro
305 310	315	

Glu	Arg	Ile	Val	Val	Ile	Met	Arg	Gly	Leu	Pro	Gly	Ser	Gly	Lys	320	325	330
Thr	His	Val	Ala	Lys	Leu	Ile	Arg	Asp	Lys	Glu	Val	Glu	Phe	Gly	335	340	345
Gly	Pro	Ala	Pro	Arg	Val	Leu	Ser	Leu	Asp	Asp	Tyr	Phe	Ile	Thr	350	355	360
Glu	Val	Glu	Lys	Glu	Glu	Lys	Asp	Pro	Asp	Ser	Gly	Lys	Lys	Val	365	370	375
Lys	Lys	Lys	Val	Met	Glu	Tyr	Glu	Tyr	Glu	Ala	Glu	Met	Glu	Glu	380	385	390
Thr	Tyr	Arg	Thr	Ser	Met	Phe	Lys	Thr	Phe	Lys	Lys	Thr	Leu	Asp	395	400	405
Asp	Gly	Phe	Phe	Pro	Phe	Ile	Ile	Leu	Asp	Ala	Ile	Asn	Asp	Arg	410	415	420
Val	Arg	His	Phe	Asp	Gln	Phe	Trp	Ser	Ala	Ala	Lys	Thr	Lys	Gly	425	430	435
Phe	Glu	Val	Tyr	Leu	Ala	Glu	Met	Ser	Ala	Asp	Asn	Gln	Thr	Cys	440	445	450
Gly	Lys	Arg	Asn	Ile	His	Gly	Arg	Lys	Leu	Lys	Glu	Ile	Asn	Lys	455	460	465
Met	Ala	Asp	His	Trp	Glu	Thr	Ala	Pro	Arg	His	Met	Met	Arg	Leu	470	475	480
Asp	Ile	Arg	Ser	Leu	Leu	Gln	Asp	Ala	Ala	Ile	Glu	Glu	Val	Glu	485	490	495
Met	Glu	Asp	Phe	Asp	Ala	Asn	Ile	Glu	Glu	Gln	Lys	Glu	Glu	Lys	500	505	510
Lys	Asp	Ala	Glu	Glu	Glu	Glu	Ser	Glu	Leu	Gly	Tyr	Ile	Pro	Lys	515	520	525
Ser	Lys	Trp	Glu	Met	Asp	Thr	Ser	Glu	Ala	Lys	Leu	Asp	Lys	Leu	530	535	540
Asp	Gly	Leu	Arg	Thr	Gly	Thr	Lys	Arg	Lys	Arg	Asp	Trp	Glu	Ala	545	550	555
Ile	Ala	Ser	Arg	Met	Glu	Asp	Tyr	Leu	Gln	Leu	Pro	Asp	Asp	Tyr	560	565	570
Asp	Thr	Arg	Ala	Ser	Glu	Pro	Gly	Lys	Lys	Arg	Val	Arg	Trp	Ala	575	580	585
Asp	Leu	Glu	Glu	Lys	Lys	Asp	Ala	Asp	Arg	Lys	Arg	Ala	Ile	Gly	590	595	600
Phe	Val	Val	Gly	Gln	Thr	Asp	Trp	Glu	Lys	Ile	Thr	Asp	Glu	Ser	605	610	615
Gly	His	Leu	Ala	Glu	Lys	Ala	Leu	Asn	Arg	Thr	Lys	Tyr	Ile		620	625	

&lt;210&gt; 9

&lt;211&gt; 445

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; Incyte Clone No: 3979009

&lt;400&gt; 9

Met	Asn	Arg	His	Leu	Cys	Val	Trp	Leu	Phe	Arg	His	Pro	Ser	Leu	1	5	10	15
Asn	Gly	Tyr	Leu	Gln	Cys	His	Ile	Gln	Leu	His	Ser	His	Gln	Phe	20	25	30	
Arg	Gln	Ile	His	Leu	Asp	Thr	Arg	Leu	Gln	Val	Phe	Arg	Gln	Asn				

	35		40		45									
Arg	Asn	Cys	Ile	Leu	His	Leu	Leu	Ser	Lys	Asn	Trp	Ser	Arg	Arg
	50								55					60
Tyr	Cys	His	Gln	Asp	Thr	Lys	Met	Leu	Trp	Lys	His	Lys	Ala	Leu
	65								70					75
Gln	Lys	Tyr	Met	Glu	Asn	Leu	Ser	Lys	Glu	Tyr	Gln	Thr	Leu	Glu
	80								85					90
Gln	Cys	Leu	Gln	His	Ile	Pro	Val	Asn	Glu	Glu	Asn	Arg	Arg	Ser
	95								100					105
Leu	Asn	Arg	Arg	His	Ala	Glu	Leu	Ala	Pro	Leu	Ala	Ala	Ile	Tyr
	110								115					120
Gln	Glu	Ile	Gln	Glu	Thr	Glu	Gln	Ala	Ile	Glu	Glu	Leu	Glu	Ser
	125								130					135
Met	Cys	Lys	Ser	Leu	Asn	Lys	Gln	Asp	Glu	Lys	Gln	Leu	Gln	Glu
	140								145					150
Leu	Ala	Leu	Glu	Glu	Arg	Gln	Thr	Ile	Asp	Gln	Lys	Ile	Asn	Met
	155								160					165
Leu	Tyr	Asn	Glu	Leu	Phe	Gln	Ser	Leu	Val	Pro	Lys	Glu	Lys	Tyr
	170								175					180
Asp	Lys	Asn	Asp	Val	Ile	Leu	Glu	Val	Thr	Ala	Gly	Arg	Thr	Thr
	185								190					195
Gly	Gly	Asp	Ile	Cys	Gln	Gln	Phe	Thr	Arg	Glu	Ile	Phe	Asp	Met
	200								205					210
Tyr	Gln	Asn	Tyr	Ser	Cys	Tyr	Lys	His	Trp	Gln	Phe	Glu	Leu	Leu
	215								220					225
Asn	Tyr	Thr	Pro	Ala	Asp	Tyr	Gly	Gly	Leu	His	His	Ala	Ala	Ala
	230								235					240
Arg	Ile	Ser	Gly	Asp	Gly	Val	Tyr	Lys	His	Leu	Lys	Tyr	Glu	Gly
	245								250					255
Gly	Ile	His	Arg	Val	Gln	Arg	Ile	Pro	Glu	Val	Gly	Leu	Ser	Ser
	260								265					270
Arg	Met	Gln	Arg	Ile	His	Thr	Gly	Thr	Met	Ser	Val	Ile	Val	Leu
	275								280					285
Pro	Gln	Pro	Asp	Glu	Val	Asp	Val	Lys	Leu	Asp	Pro	Lys	Asp	Leu
	290								295					300
Arg	Ile	Asp	Thr	Phe	Arg	Ala	Lys	Gly	Ala	Gly	Gly	Gln	His	Val
	305								310					315
Asn	Lys	Thr	Asp	Ser	Ala	Val	Arg	Leu	Val	His	Ile	Pro	Thr	Gly
	320								325					330
Leu	Val	Val	Glu	Cys	Gln	Gln	Glu	Arg	Ser	Gln	Ile	Lys	Asn	Lys
	335								340					345
Glu	Ile	Ala	Phe	Arg	Val	Leu	Arg	Ala	Arg	Leu	Tyr	Gln	Gln	Ile
	350								355					360
Ile	Glu	Lys	Asp	Lys	Arg	Gln	Gln	Gln	Ser	Ala	Arg	Lys	Leu	Gln
	365								370					375
Val	Gly	Thr	Arg	Ala	Gln	Ser	Glu	Arg	Ile	Arg	Thr	Tyr	Asn	Phe
	380								385					390
Thr	Gln	Asp	Arg	Val	Ser	Asp	His	Arg	Ile	Ala	Tyr	Glu	Val	Arg
	395								400					405
Asp	Ile	Lys	Glu	Phe	Leu	Cys	Gly	Gly	Lys	Gly	Leu	Asp	Gln	Leu
	410								415					420
Ile	Gln	Arg	Leu	Leu	Gln	Ser	Ala	Asp	Glu	Glu	Ala	Ile	Ala	Glu
	425								430					435
Leu	Leu	Asp	Glu	His	Leu	Lys	Ser	Ala	Lys					
	440								445					

<210> 10  
<211> 280

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; Incyte Clone No: 3992058

&lt;400&gt; 10

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Met Val Ala Arg Arg Arg Lys Cys Ala Ala Arg Asp Pro Glu Asp
 1          5          10          15
Arg Ile Pro Ser Pro Leu Gly Tyr Ala Ala Ile Pro Ile Lys Phe
          20          25          30
Ser Glu Lys Gln Gln Ala Ser His Tyr Leu Tyr Val Arg Ala His
          35          40          45
Gly Val Arg Gln Gly Thr Lys Ser Thr Trp Pro Gln Lys Arg Thr
          50          55          60
Leu Phe Val Leu Asn Val Pro Pro Tyr Cys Thr Glu Glu Ser Leu
          65          70          75
Ser Arg Leu Leu Ser Thr Cys Gly Leu Val Gln Ser Ile Glu Leu
          80          85          90
Gln Glu Lys Pro Asp Leu Ala Glu Ser Pro Lys Glu Ser Arg Ser
          95          100          105
Lys Phe Phe His Pro Lys Pro Val Pro Gly Phe Gln Val Ala Tyr
          110          115          120
Val Val Phe Gln Lys Pro Ser Gly Val Ser Ala Ala Leu Ala Leu
          125          130          135
Lys Gly Pro Leu Leu Val Ser Thr Glu Ser His Pro Val Lys Ser
          140          145          150
Gly Ile His Lys Trp Ile Ser Asp Tyr Ala Asp Ser Val Pro Asp
          155          160          165
Pro Glu Ala Leu Arg Val Glu Val Asp Thr Phe Met Glu Ala Tyr
          170          175          180
Asp Gln Lys Ile Ala Glu Glu Glu Ala Lys Ala Lys Glu Glu Glu
          185          190          195
Gly Val Pro Asp Glu Glu Gly Trp Val Lys Val Thr Arg Arg Gly
          200          205          210
Arg Arg Pro Val Leu Pro Arg Thr Glu Ala Ala Ser Leu Arg Val
          215          220          225
Leu Glu Arg Glu Arg Arg Lys Arg Ser Arg Lys Glu Leu Leu Asn
          230          235          240
Phe Tyr Ala Trp Gln His Arg Glu Ser Lys Met Glu His Leu Ala
          245          250          255
Gln Leu Arg Lys Lys Phe Glu Glu Asp Lys Gln Arg Ile Glu Leu
          260          265          270
Leu Arg Ala Gln Arg Lys Phe Arg Pro Tyr
          275          280

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&lt;210&gt; 11

&lt;211&gt; 130

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; Incyte Clone No: 4011179

&lt;400&gt; 11

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Met Ala Arg Gly Val Val Ser Ala Lys Gly Gly Ala Val Ala Gly

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1	5	10	15
Lys Lys Lys Gly Ser Val Ser Phe Thr Ile Asp Cys Thr Lys Pro	20	25	30
Val Glu Asp Lys Ile Met Glu Val Ala Ser Leu Glu Lys Phe Leu	35	40	45
Gln Glu Arg Ile Lys Val Ala Gly Gly Lys Ala Gly Asn Leu Gly	50	55	60
Asp Ser Val Thr Ile Ser Arg Glu Lys Thr Lys Val Thr Val Thr	65	70	75
Ser Asp Gly Pro Phe Ser Lys Arg Tyr Leu Lys Tyr Leu Thr Lys	80	85	90
Lys Tyr Leu Lys Lys His Asn Val Arg Asp Trp Leu Arg Val Val	95	100	105
Ala Ala Asn Lys Asp Arg Asn Val Tyr Glu Leu Arg Tyr Phe Asn	110	115	120
Ile Ala Glu Asn Glu Gly Glu Glu Glu Asp	125	130	

&lt;210&gt; 12

&lt;211&gt; 226

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; Incyte Clone No: 5425219

&lt;400&gt; 12

Met Ser Asn Tyr Val Asn Asp Met Trp Pro Gly Ser Pro Gln Glu	1	5	10	15
Lys Asp Ser Pro Ser Thr Ser Arg Ser Gly Gly Ser Ser Arg Leu	20	25	30	35
Ser Ser Arg Ser Arg Ser Arg Ser Phe Ser Arg Ser Ser Arg Ser	40	45	50	55
His Ser Arg Val Ser Ser Arg Phe Ser Ser Arg Ser Arg Arg Ser	60	65	70	75
Lys Ser Arg Ser Arg Ser Arg Arg Arg His Gln Arg Lys Tyr Arg	80	85	90	95
Arg Tyr Ser Arg Ser Tyr Ser Arg Ser Arg Ser Arg Ser Arg Ser	100	105	110	115
Arg Arg Tyr Arg Glu Arg Arg Tyr Gly Phe Thr Arg Arg Tyr Tyr	120	125	130	135
Arg Ser Pro Ser Arg Tyr Arg Ser Arg Ser Arg Ser Arg Ser Arg	140	145	150	155
Ser Arg Gly Arg Ser Tyr Cys Gly Arg Ala Tyr Ala Ile Ala Arg	160	165	170	175
Gly Gln Arg Tyr Tyr Gly Phe Gly Arg Thr Val Tyr Pro Glu Glu	180	185	190	195
His Ser Arg Trp Arg Asp Arg Ser Arg Thr Arg Ser Arg Ser Arg	200	205	210	215
Thr Pro Phe Arg Leu Ser Glu Lys Asp Arg Met Glu Leu Leu Glu	220	225		
Ile Ala Lys Thr Asn Ala Ala Lys Ala Leu Gly Thr Thr Asn Ile				
Asp Leu Pro Ala Ser Leu Arg Thr Val Pro Ser Ala Lys Glu Thr				
Ser Arg Gly Ile Gly Val Ser Ser Asn Gly Ala Lys Pro Glu Lys				

Ser

<210> 13  
 <211> 296  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <223> Incyte Clone No: 5522684

<400> 13  
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 1 5 10 15  
 Leu Arg Gly Leu Pro Arg Val Ser Leu Ala Asn Leu Lys Pro Asn  
 20 25 30  
 Pro Gly Ser Lys Lys Pro Glu Arg Arg Pro Arg Gly Arg Arg Arg  
 35 40 45  
 Gly Arg Lys Cys Gly Arg Gly His Lys Gly Glu Arg Gln Arg Gly  
 50 55 60  
 Thr Arg Pro Arg Leu Gly Phe Glu Gly Gly Gln Thr Pro Phe Tyr  
 65 70 75  
 Ile Arg Ile Pro Lys Tyr Gly Phe Asn Glu Gly His Ser Phe Arg  
 80 85 90  
 Arg Gln Tyr Lys Pro Leu Ser Leu Asn Arg Leu Gln Tyr Leu Ile  
 95 100 105  
 Asp Leu Gly Arg Val Asp Pro Ser Gln Pro Ile Asp Leu Thr Gln  
 110 115 120  
 Leu Val Asn Gly Arg Gly Val Thr Ile Gln Pro Leu Lys Arg Asp  
 125 130 135  
 Tyr Gly Val Gln Leu Val Glu Glu Gly Ala Asp Thr Phe Thr Ala  
 140 145 150  
 Lys Val Asn Ile Glu Val Gln Leu Ala Ser Glu Leu Ala Ile Ala  
 155 160 165  
 Ala Ile Glu Lys Asn Gly Gly Val Val Thr Thr Ala Phe Tyr Asp  
 170 175 180  
 Pro Arg Ser Leu Asp Ile Val Cys Lys Pro Val Pro Phe Phe Leu  
 185 190 195  
 Arg Gly Gln Pro Ile Pro Lys Arg Met Leu Pro Pro Glu Glu Leu  
 200 205 210  
 Val Pro Tyr Tyr Thr Asp Ala Lys Asn Arg Gly Tyr Leu Ala Asp  
 215 220 225  
 Pro Ala Lys Phe Pro Glu Ala Arg Leu Glu Leu Ala Arg Lys Tyr  
 230 235 240  
 Gly Tyr Ile Leu Pro Asp Ile Thr Lys Asp Glu Leu Phe Lys Met  
 245 250 255  
 Leu Cys Thr Arg Lys Asp Pro Arg Gln Ile Phe Phe Gly Leu Ala  
 260 265 270  
 Pro Gly Trp Val Val Asn Met Ala Asp Lys Lys Ile Leu Lys Pro  
 275 280 285  
 Thr Asp Glu Asn Leu Leu Lys Tyr Tyr Thr Ser  
 290 295

<210> 14  
 <211> 2297

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; Incyte Clone No: 046926

&lt;400&gt; 14

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&lt;210&gt; 15

&lt;211&gt; 2144

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; Incyte Clone No: 618791

&lt;400&gt; 15

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cctccatctg gaattgaaga tgaactgct gaaaatgggt taccaaaacc gaaagtgact 420
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<210> 16  
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 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <223> Incyte Clone No: 1240366

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<210> 17
<211> 1346
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<223> Incyte Clone No: 1295773

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<210> 18
<211> 2720
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<223> Incyte Clone No: 1858421

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ccacagacca agcccgaaag gaagcccggg agagagaatt aaagaagaac aaaaaacagc 300
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<210> 19

<211> 676

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte Clone No: 2152431

<400> 19

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ggggcttcca gcacttacct tatgcagtgc tcggccttgc gcaaaaacgg cttcgtgggtg 180  
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<210> 20
<211> 909
<212> DNA
<213> Homo sapiens

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<220>
<221> misc_feature
<223> Incyte Clone No: 2641494

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aaaaaaaaa                                     909

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<210> 21
<211> 2405
<212> DNA
<213> Homo sapiens

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<220>
<221> misc_feature
<223> Incyte Clone No: 3803409

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<400> 21
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&lt;210&gt; 22

&lt;211&gt; 1754

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; Incyte Clone No: 3979009

&lt;400&gt; 22

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<210> 23  
 <211> 1221  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <223> Incyte Clone No: 3992058

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## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/US 00/16644

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/12 C12N5/10 C07K14/47 C12N15/00 A01K67/027  
C12Q1/68 C07K16/18 A61K38/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

STRAND, EPO-Internal, WPI Data, BIOSIS

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WILSON R ET AL: "2.2 MB OF CONTIGUOUS NUCLEOTIDE SEQUENCE FROM CHROMOSOME III OF C. ELEGANS" NATURE, GB, MACMILLAN JOURNALS LTD. LONDON, vol. 368, no. 6466, 3 March 1994 (1994-03-03), pages 32-38, XP002029739 ISSN: 0028-0836 the whole document	1
A	WO 98 23744 A (INCYTE PHARMA INC ; BANDMAN OLGA (US); GOLI SURYA K (US)) 4 June 1998 (1998-06-04) the whole document --- -/--	1

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"Z" document member of the same patent family

Date of the actual completion of the international search

17 January 2001

Date of mailing of the international search report

25. 04. 2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
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Authorized officer

CHAMBONNET, F

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/16644

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	EMBL ACCESSION NUMBER Q9Y2Z6; SEQUENCE CHARACTERISATION CGI-07 PROTEIN. Homo sapiens (Human). DT 01-NOV-1999 (TrEMBLrel. 12, Created) Lin W.-C.; "Comparative gene cloning: Identification of novel human genes with C. elegans proteome as template."; XP002157664 the whole document -----	1

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 00/16644

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

see further information sheet invention group1.

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: partially 1-27

An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

- a) an amino acid sequence consisting of SEQ ID NO:1,
- b) a naturally occurring amino acid sequence having at least 90% sequence identity to SEQ ID NO:1,
- c) a biologically active fragment of an amino acid sequence consisting in SEQ ID NO:1,
- d) an immunogenic fragment of an amino acid sequence consisting in SEQ ID NO:1;

an isolated polynucleotide encoding said polypeptide or consisting of SEQ ID NO:14; a cell transformed with such a recombinant polynucleotide; a transgenic organism comprising said recombinant polynucleotide; an isolated antibody which specifically binds to said polypeptide; an hybridization method for detecting a target said polynucleotide; a pharmaceutical composition comprising an effective amount of said polypeptide and a pharmaceutically acceptable excipient; methods for screening agonists, antagonists, binding compounds, of said polypeptide and pharmaceutical compositions comprising an effective amount thereof and a pharmaceutically acceptable excipient; method for treating a disease or condition associated with an altered expression of said functional polypeptide using said pharmaceutical compositions;

2. Claims: partially 1-27

An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

- a) an amino acid sequence consisting of SEQ ID NO:2,
- b) a naturally occurring amino acid sequence having at least 90% sequence identity to SEQ ID NO:2,
- c) a biologically active fragment of an amino acid sequence consisting in SEQ ID NO:2,
- d) an immunogenic fragment of an amino acid sequence consisting in SEQ ID NO:2;

an isolated polynucleotide encoding said polypeptide or consisting of SEQ ID NO:15; a cell transformed with such a recombinant polynucleotide; a transgenic organism comprising said recombinant polynucleotide; an isolated antibody which specifically binds to said polypeptide; an hybridization method for detecting a target said polynucleotide; a pharmaceutical composition comprising an effective amount of said polypeptide and a pharmaceutically acceptable excipient; methods for screening agonists, antagonists, binding compounds, of said polypeptide and pharmaceutical compositions comprising an effective amount thereof and a pharmaceutically acceptable excipient; method for treating a disease or condition associated with an altered expression of said functional polypeptide using said pharmaceutical compositions;

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

## 3. Claims: partially 1-27

An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

- a) an amino acid sequence consisting of SEQ ID NO:3,
  - b) a naturally occurring amino acid sequence having at least 90% sequence identity to SEQ ID NO:3,
  - c) a biologically active fragment of an amino acid sequence consisting in SEQ ID NO:3,
  - d) an immunogenic fragment of an amino acid sequence consisting in SEQ ID NO:3;
- an isolated polynucleotide encoding said polypeptide or consisting of SEQ ID NO:16; a cell transformed with such a recombinant polynucleotide; a transgenic organism comprising said recombinant polynucleotide; an isolated antibody which specifically binds to said polypeptide; an hybridization method for detecting a target said polynucleotide; a pharmaceutical composition comprising an effective amount of said polypeptide and a pharmaceutically acceptable excipient; methods for screening agonists, antagonists, binding compounds, of said polypeptide and pharmaceutical compositions comprising an effective amount thereof and a pharmaceutically acceptable excipient; method for treating a disease or condition associated with an altered expression of said functional polypeptide using said pharmaceutical compositions;

## 4. Claims: partially 1-27

An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

- a) an amino acid sequence consisting of SEQ ID NO:4,
  - b) a naturally occurring amino acid sequence having at least 90% sequence identity to SEQ ID NO:4,
  - c) a biologically active fragment of an amino acid sequence consisting in SEQ ID NO:4,
  - d) an immunogenic fragment of an amino acid sequence consisting in SEQ ID NO:4;
- an isolated polynucleotide encoding said polypeptide or consisting of SEQ ID NO:17; a cell transformed with such a recombinant polynucleotide; a transgenic organism comprising said recombinant polynucleotide; an isolated antibody which specifically binds to said polypeptide; an hybridization method for detecting a target said polynucleotide; a pharmaceutical composition comprising an effective amount of said polypeptide and a pharmaceutically acceptable excipient; methods for screening agonists, antagonists, binding compounds, of said polypeptide and pharmaceutical compositions comprising an effective amount thereof and a pharmaceutically acceptable excipient; method for treating a disease or condition associated with an altered expression of said functional polypeptide using said pharmaceutical compositions;

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

## 5. Claims: partially 1-27

An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

- a) an amino acid sequence consisting of SEQ ID NO:5,
- b) a naturally occurring amino acid sequence having at least 90% sequence identity to SEQ ID NO:5,
- c) a biologically active fragment of an amino acid sequence consisting in SEQ ID NO:5,
- d) an immunogenic fragment of an amino acid sequence consisting in SEQ ID NO:5;

an isolated polynucleotide encoding said polypeptide or consisting of SEQ ID NO:18; a cell transformed with such a recombinant polynucleotide; a transgenic organism comprising said recombinant polynucleotide; an isolated antibody which specifically binds to said polypeptide; an hybridization method for detecting a target said polynucleotide; a pharmaceutical composition comprising an effective amount of said polypeptide and a pharmaceutically acceptable excipient; methods for screening agonists, antagonists, binding compounds, of said polypeptide and pharmaceutical compositions comprising an effective amount thereof and a pharmaceutically acceptable excipient; method for treating a disease or condition associated with an altered expression of said functional polypeptide using said pharmaceutical compositions;

## 6. Claims: partially 1-27

An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

- a) an amino acid sequence consisting of SEQ ID NO:6,
- b) a naturally occurring amino acid sequence having at least 90% sequence identity to SEQ ID NO:6,
- c) a biologically active fragment of an amino acid sequence consisting in SEQ ID NO:6,
- d) an immunogenic fragment of an amino acid sequence consisting in SEQ ID NO:6;

an isolated polynucleotide encoding said polypeptide or consisting of SEQ ID NO:19; a cell transformed with such a recombinant polynucleotide; a transgenic organism comprising said recombinant polynucleotide; an isolated antibody which specifically binds to said polypeptide; an hybridization method for detecting a target said polynucleotide; a pharmaceutical composition comprising an effective amount of said polypeptide and a pharmaceutically acceptable excipient; methods for screening agonists, antagonists, binding compounds, of said polypeptide and pharmaceutical compositions comprising an effective amount thereof and a pharmaceutically acceptable excipient; method for treating a disease or condition associated with an altered expression of said functional polypeptide using said pharmaceutical compositions;

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

## 7. Claims: partially 1-27

An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

- a) an amino acid sequence consisting of SEQ ID NO:1,
- b) a naturally occurring amino acid sequence having at least 90% sequence identity to SEQ ID NO:1,
- c) a biologically active fragment of an amino acid sequence consisting in SEQ ID NO:1,
- d) an immunogenic fragment of an amino acid sequence consisting in SEQ ID NO:1;

an isolated polynucleotide encoding said polypeptide or consisting of SEQ ID NO:21; a cell transformed with such a recombinant polynucleotide; a transgenic organism comprising said recombinant polynucleotide; an isolated antibody which specifically binds to said polypeptide; an hybridization method for detecting a target said polynucleotide; a pharmaceutical composition comprising an effective amount of said polypeptide and a pharmaceutically acceptable excipient; methods for screening agonists, antagonists, binding compounds, of said polypeptide and pharmaceutical compositions comprising an effective amount thereof and a pharmaceutically acceptable excipient; method for treating a disease or condition associated with an altered expression of said functional polypeptide using said pharmaceutical compositions;

## 8. Claims: partially 1-27

An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

- a) an amino acid sequence consisting of SEQ ID NO:8,
- b) a naturally occurring amino acid sequence having at least 90% sequence identity to SEQ ID NO:8,
- c) a biologically active fragment of an amino acid sequence consisting in SEQ ID NO:8,
- d) an immunogenic fragment of an amino acid sequence consisting in SEQ ID NO:8;

an isolated polynucleotide encoding said polypeptide or consisting of SEQ ID NO:214; a cell transformed with such a recombinant polynucleotide; a transgenic organism comprising said recombinant polynucleotide; an isolated antibody which specifically binds to said polypeptide; an hybridization method for detecting a target said polynucleotide; a pharmaceutical composition comprising an effective amount of said polypeptide and a pharmaceutically acceptable excipient; methods for screening agonists, antagonists, binding compounds, of said polypeptide and pharmaceutical compositions comprising an effective amount thereof and a pharmaceutically acceptable excipient; method for treating a disease or condition associated with an altered expression of said functional polypeptide using said pharmaceutical compositions;

## 9. Claims: partially 1-27

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

- a) an amino acid sequence consisting of SEQ ID NO:9,
- b) a naturally occurring amino acid sequence having at least 90% sequence identity to SEQ ID NO:9,
- c) a biologically active fragment of an amino acid sequence consisting in SEQ ID NO:9,
- d) an immunogenic fragment of an amino acid sequence consisting in SEQ ID NO:9;

an isolated polynucleotide encoding said polypeptide or consisting of SEQ ID NO:22; a cell transformed with such a recombinant polynucleotide; a transgenic organism comprising said recombinant polynucleotide; an isolated antibody which specifically binds to said polypeptide; an hybridization method for detecting a target said polynucleotide; a pharmaceutical composition comprising an effective amount of said polypeptide and a pharmaceutically acceptable excipient; methods for screening agonists, antagonists, binding compounds, of said polypeptide and pharmaceutical compositions comprising an effective amount thereof and a pharmaceutically acceptable excipient; method for treating a disease or condition associated with an altered expression of said functional polypeptide using said pharmaceutical compositions;

10. Claims: partially 1-27

An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

- a) an amino acid sequence consisting of SEQ ID NO:10,
- b) a naturally occurring amino acid sequence having at least 90% sequence identity to SEQ ID NO:10,
- c) a biologically active fragment of an amino acid sequence consisting in SEQ ID NO:10,
- d) an immunogenic fragment of an amino acid sequence consisting in SEQ ID NO:10;

an isolated polynucleotide encoding said polypeptide or consisting of SEQ ID NO:23; a cell transformed with such a recombinant polynucleotide; a transgenic organism comprising said recombinant polynucleotide; an isolated antibody which specifically binds to said polypeptide; an hybridization method for detecting a target said polynucleotide; a pharmaceutical composition comprising an effective amount of said polypeptide and a pharmaceutically acceptable excipient; methods for screening agonists, antagonists, binding compounds, of said polypeptide and pharmaceutical compositions comprising an effective amount thereof and a pharmaceutically acceptable excipient; method for treating a disease or condition associated with an altered expression of said functional polypeptide using said pharmaceutical compositions;

11. Claims: partially 1-27



## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

- a) an amino acid sequence consisting of SEQ ID NO:11,
- b) a naturally occurring amino acid sequence having at least 90% sequence identity to SEQ ID NO:11,
- c) a biologically active fragment of an amino acid sequence consisting in SEQ ID NO:11,
- d) an immunogenic fragment of an amino acid sequence consisting in SEQ ID NO:11;

an isolated polynucleotide encoding said polypeptide or consisting of SEQ ID NO:24; a cell transformed with such a recombinant polynucleotide; a transgenic organism comprising said recombinant polynucleotide; an isolated antibody which specifically binds to said polypeptide; an hybridization method for detecting a target said polynucleotide; a pharmaceutical composition comprising an effective amount of said polypeptide and a pharmaceutically acceptable excipient; methods for screening agonists, antagonists, binding compounds, of said polypeptide and pharmaceutical compositions comprising an effective amount thereof and a pharmaceutically acceptable excipient; method for treating a disease or condition associated with an altered expression of said functional polypeptide using said pharmaceutical compositions;

## 12. Claims: partially 1-27

An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

- a) an amino acid sequence consisting of SEQ ID NO:12,
- b) a naturally occurring amino acid sequence having at least 90% sequence identity to SEQ ID NO:12,
- c) a biologically active fragment of an amino acid sequence consisting in SEQ ID NO:12,
- d) an immunogenic fragment of an amino acid sequence consisting in SEQ ID NO:12;

an isolated polynucleotide encoding said polypeptide or consisting of SEQ ID NO:25; a cell transformed with such a recombinant polynucleotide; a transgenic organism comprising said recombinant polynucleotide; an isolated antibody which specifically binds to said polypeptide; an hybridization method for detecting a target said polynucleotide; a pharmaceutical composition comprising an effective amount of said polypeptide and a pharmaceutically acceptable excipient; methods for screening agonists, antagonists, binding compounds, of said polypeptide and pharmaceutical compositions comprising an effective amount thereof and a pharmaceutically acceptable excipient; method for treating a disease or condition associated with an altered expression of said functional polypeptide using said pharmaceutical compositions;

## 13. Claims: partially 1-27

An isolated polypeptide comprising an amino acid sequence

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

selected from the group consisting of:

- a) an amino acid sequence consisting of SEQ ID NO:13,
- b) a naturally occurring amino acid sequence having at least 90% sequence identity to SEQ ID NO:13,
- c) a biologically active fragment of an amino acid sequence consisting in SEQ ID NO:13,
- d) an immunogenic fragment of an amino acid sequence consisting in SEQ ID NO:13; an isolated polynucleotide encoding said polypeptide or consisting of SEQ ID NO:26; a cell transformed with such a recombinant polynucleotide; a transgenic organism comprising said recombinant polynucleotide; an isolated antibody which specifically binds to said polypeptide; an hybridization method for detecting a target said polynucleotide; a pharmaceutical composition comprising an effective amount of said polypeptide and a pharmaceutically acceptable excipient; methods for screening agonists, antagonists, binding compounds, of said polypeptide and pharmaceutical compositions comprising an effective amount thereof and a pharmaceutically acceptable excipient; method for treating a disease or condition associated with an altered expression of said functional polypeptide using said pharmaceutical compositions;

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

US 00/16644

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9823744	A	04-06-1998	US 5962226 A	05-10-1999
			AU 7410598 A	22-06-1998
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